

ABSTRACT OF THE DISCLOSURE

This invention relates to a process for forming a metal interconnect comprising the steps of forming a concave in an insulating film formed on a substrate, forming a barrier metal film on the insulating film, forming an interconnect metal film over the whole surface such that the concave is filled with the metal and then polishing the surface of the substrate by chemical mechanical polishing, characterized in that the polishing step comprises a first polishing step of polishing the surface such that the interconnect metal film partially remains on the surface other than the concave and a second polishing step of polishing the surface using a polishing slurry controlling a polishing-rate ratio of the interconnect metal to the barrier metal to 1 to 3 both inclusive, until the surface of the insulating film other than the concave is substantially completely exposed. According to this invention, dishing and erosion can be prevented and a reliable damascene interconnect with a small dispersion of an interconnect resistance can be formed.